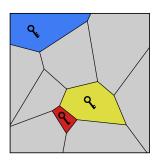
## On the Subject of Voronoi Maze

Where's up and down?

The cells shown on the module constitute a maze. You must deduce which lines are walls (as traversing those will issue a strike).



To begin, interpret the serial number as a base-36 number.

Decoding the walls involves an iterative process. In each iteration, a number n is relevant. Perform these calculations:

- Take the number modulo n to obtain a value.
- <u>Divide</u> the number by *n* (rounding down) to obtain the number for the next iteration.

At the start, n is the number of rooms adjacent to the module border. They are numbered in counter-clockwise order beginning with the room in the bottom-left corner. Now create a list of the lines surrounding this room (not counting the module border) and number them from 0, starting at the first line counter-clockwise from the module border.

In each subsequent iteration, n is the number of lines in the list. Each time a line is selected, this effectively "discovers" a new room. Modify the list as follows:

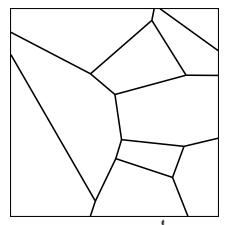
- Add all lines surrounding the new room in counter-clockwise order beginning with the line just traversed.
- Remove all lines between any two rooms that are already discovered.

Continue this process until all rooms are discovered. All lines that were selected by the iterative process are traversible; the rest are walls.

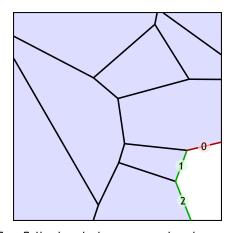
At the start, hovering over a room shows which other rooms are considered adjacent.

To begin disarming the module, tap it. The keys will no longer be visible. To move to an adjacent room, tap the room you wish to move to. Navigate the maze to collect the keys in order (red, yellow, blue) without traversing any walls.

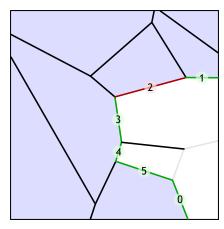
## Example



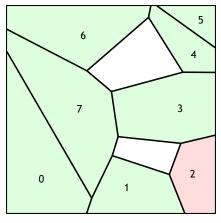
Step 1: Convert the serial number from base-36.
In this example, we assume a serial number of E62CW2.
The result is 856714178.



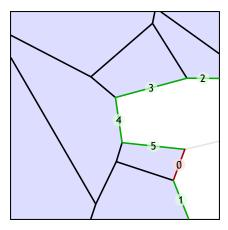
Step 3: Number the lines surrounding the room. 107089272 % 3 = 0, so we traverse line #0. 107089272  $\div$  3 = 35696424 (number for the next step).



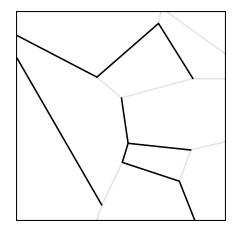
Step 5: Add the new lines. The old line #5 is now a wall. 5949404 % 6 = 2, so we will traverse line #2 next.  $5949404 \div 6 = 991567$  (number for the next step).



Step 2: Number the 8 rooms touching the module border. 856714178 % 8 = 2, so we begin with room #2.  $856714178 \div 8 = 107089272$  (number for the next step).



Step 4: Add the lines surrounding the new room. 35696424%6 = 0, so we traverse line #0.  $35696424 \div 6 = 5949404$  (number for the next step).



After 7 more steps, the final maze will look like this.